

**EVANSVILLE IN**

Latitude = 38.05 N

Longitude = 87.53 W

Period of Record = 1973 to 1996

WMO No. 724320

Elevation = 387 feet

Average Pressure = 29.61 inches Hg

**Design Criteria Data**

|                                                  | <b>Design Value</b> | Mean Coincident (Average) Values |                         |                        |                             |
|--------------------------------------------------|---------------------|----------------------------------|-------------------------|------------------------|-----------------------------|
|                                                  |                     | Wet Bulb Temperature (°F)        | Humidity Ratio (gr/lb)  | Wind Speed (mph)       | Prevailing Direction (NSEW) |
| <b>Dry Bulb Temperature (T)</b>                  | <b>(°F)</b>         |                                  |                         |                        |                             |
| Median of Extreme Highs                          | 97                  | 77                               | 111                     | 8.2                    | WSW                         |
| 0.4% Occurrence                                  | 94                  | 77                               | 112                     | 8.9                    | SW                          |
| 1.0% Occurrence                                  | 92                  | 76                               | 109                     | 9.0                    | SW                          |
| 2.0% Occurrence                                  | 90                  | 75                               | 107                     | 8.8                    | WSW                         |
| Mean Daily Range                                 | 19                  | -                                | -                       | -                      | -                           |
| 97.5% Occurrence                                 | 17                  | 15                               | 9                       | 8.6                    | NW                          |
| 99.0% Occurrence                                 | 9                   | 8                                | 6                       | 7.4                    | WNW                         |
| 99.6% Occurrence                                 | 3                   | 2                                | 4                       | 6.2                    | NNW                         |
| Median of Extreme Lows                           | -1                  | -2                               | 3                       | 7.2                    | NW                          |
|                                                  | <b>Design Value</b> | Mean Coincident (Average) Values |                         |                        |                             |
|                                                  |                     | Dry Bulb Temperature (°F)        | Humidity Ratio (gr/lb)  | Wind Speed (mph)       | Prevailing Direction (NSEW) |
| <b>Wet Bulb Temperature (T<sub>wb</sub>)</b>     | <b>(°F)</b>         |                                  |                         |                        |                             |
| Median of Extreme Highs                          | 81                  | 92                               | 143                     | 6.8                    | W                           |
| 0.4% Occurrence                                  | 79                  | 90                               | 133                     | 7.7                    | WSW                         |
| 1.0% Occurrence                                  | 78                  | 89                               | 128                     | 7.9                    | SW                          |
| 2.0% Occurrence                                  | 77                  | 88                               | 124                     | 8.0                    | SW                          |
|                                                  | <b>Design Value</b> | Mean Coincident (Average) Values |                         |                        |                             |
|                                                  |                     | Dry Bulb Temperature (°F)        | Vapor Pressure (in. Hg) | Wind Speed (mph)       | Prevailing Direction (NSEW) |
| <b>Humidity Ratio (HR)</b>                       | <b>(gr/lb)</b>      |                                  |                         |                        |                             |
| Median of Extreme Highs                          | 144                 | 83                               | 0.94                    | 11.5                   | WSW                         |
| 0.4% Occurrence                                  | 137                 | 86                               | 0.90                    | 5.9                    | WSW                         |
| 1.0% Occurrence                                  | 133                 | 84                               | 0.88                    | 6.3                    | SW                          |
| 2.0% Occurrence                                  | 128                 | 83                               | 0.85                    | 5.5                    | SW                          |
| <b>Air Conditioning/<br/>Humid Area Criteria</b> | <b># of Hours</b>   | T ≥ 93°F                         | T ≥ 80°F                | T <sub>wb</sub> ≥ 73°F | T <sub>wb</sub> ≥ 67°F      |
|                                                  |                     | 77                               | 1089                    | 809                    | 1990                        |

**Other Site Data**

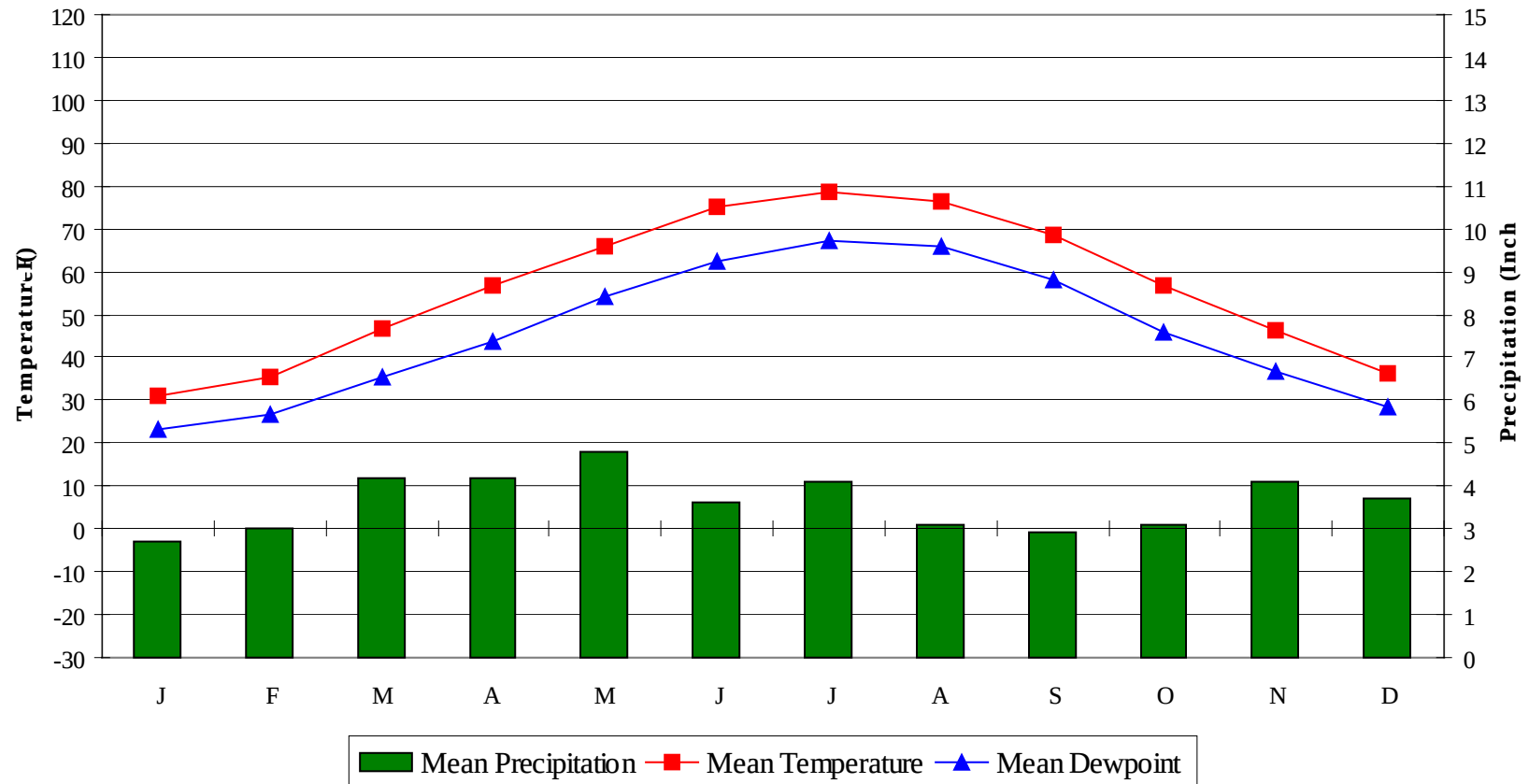
| Weather Region                                   | Rain Rate<br>100 Year Recurrence<br>(in./hr) | Basic Wind Speed<br>3 sec gust @ 33 ft<br>50 Year Recurrence (mph) | Ventilation Cooling Load Index<br>(Ton-hr/cfm/yr) Base 75°F-RH 60%<br>Latent + Sensible |
|--------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 7                                                | 3.3                                          | 90                                                                 | 3.1 + 1.1                                                                               |
| Ground Water Temperature (°F)<br>50 Foot Depth * | Frost Depth<br>50 Year Recurrence<br>(in.)   | Ground Snow Load<br>50 Year Recurrence<br>(lb/ft <sup>2</sup> )    | Average Annual<br>Freeze-Thaw Cycles<br>(#)                                             |
| 58.7                                             | N/A                                          | 17                                                                 | 48                                                                                      |

\*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

EVANSVILLE IN

WMO No. 724320

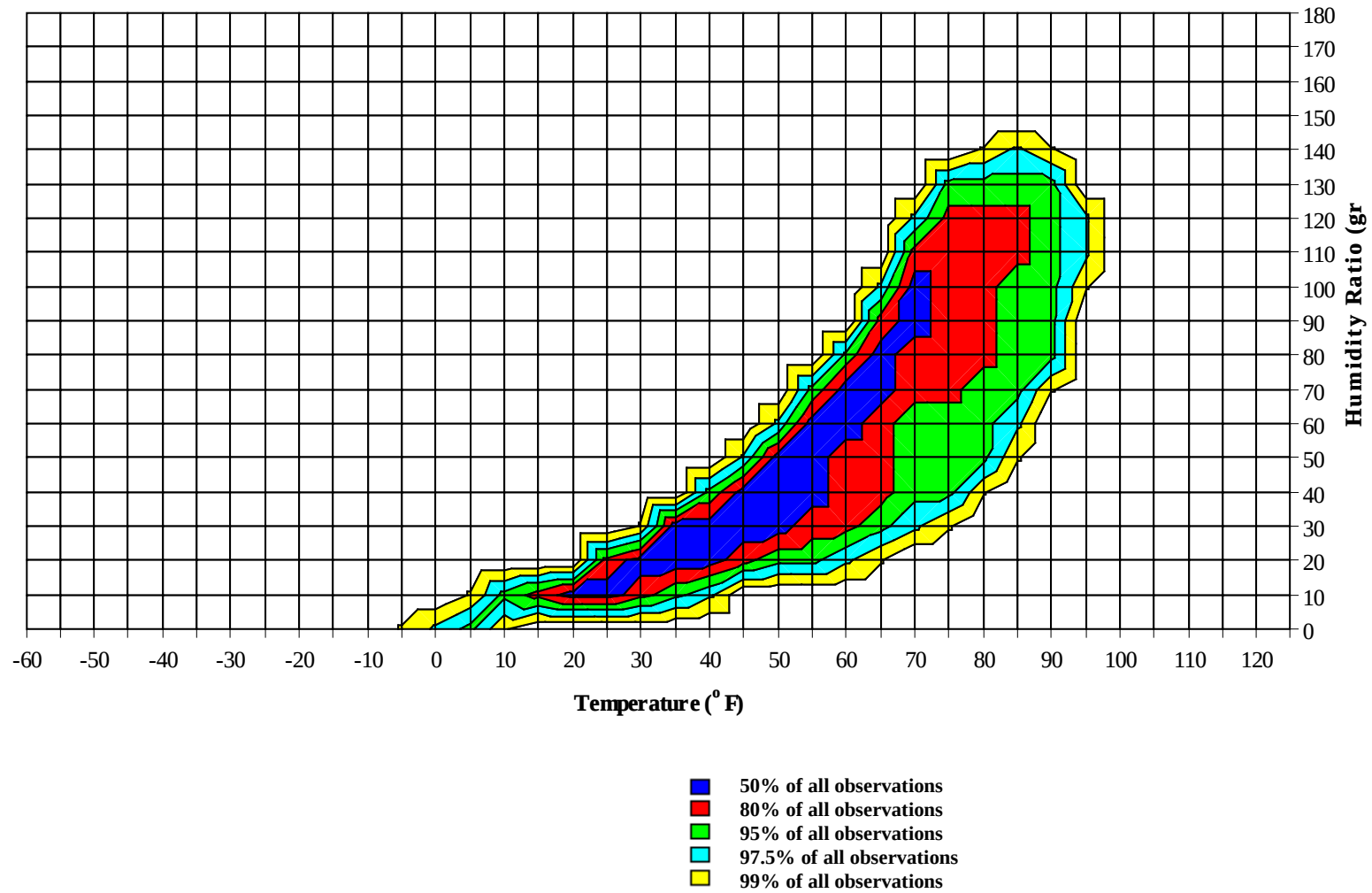
### Average Annual Climate



EVANSVILLE IN

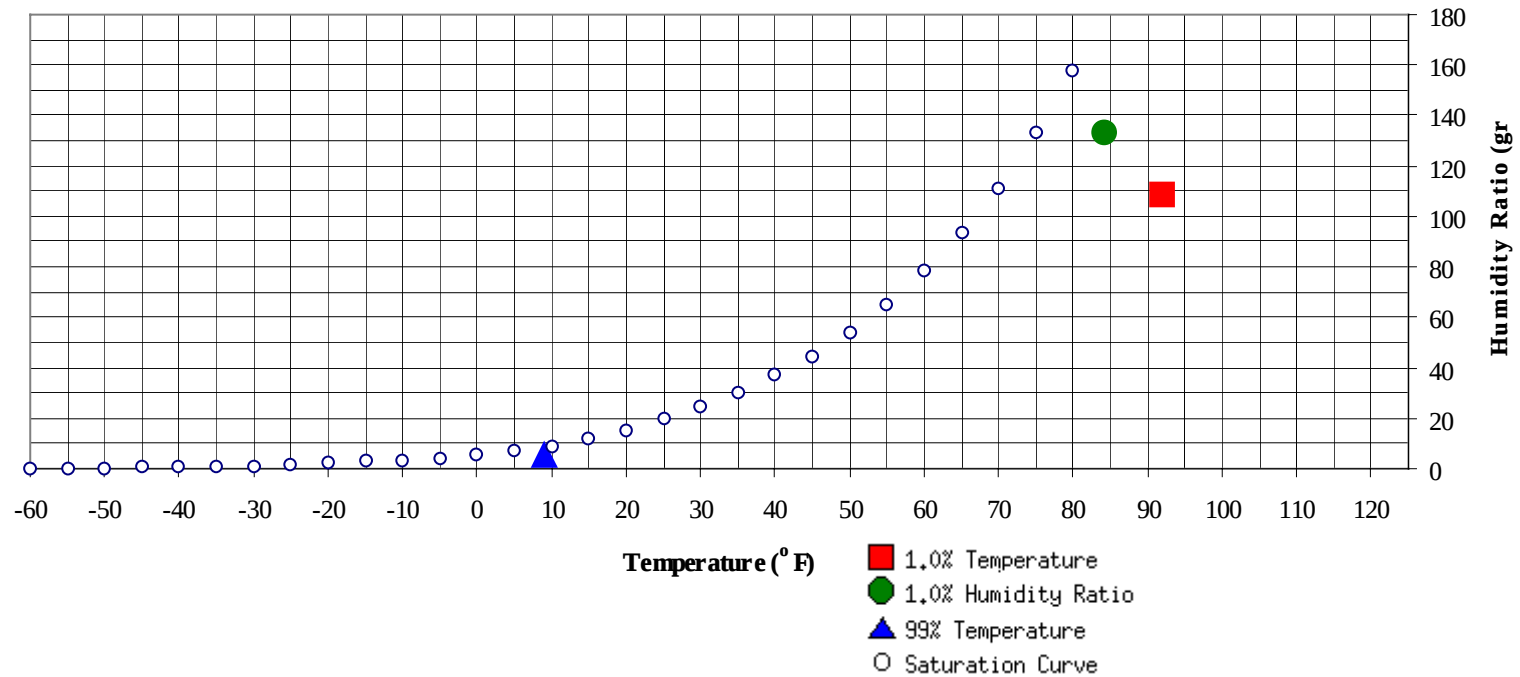
WMO No. 724320

### Long Term Psychrometric Summary



EVANSVILLE IN

WMO No. 724320

**Psychrometric Summary of Peak Design Values**

|              | (°F) | MCHR<br>(gr/lb) | Enthalpy<br>(btu/lb) | 1.0% Humidity<br>Ratio | (gr/lb) | MCDB<br>(°F) | MCWB<br>(°F) | MC Dewpt<br>(°F) | Enthalpy<br>(btu/lb) |
|--------------|------|-----------------|----------------------|------------------------|---------|--------------|--------------|------------------|----------------------|
|              |      |                 |                      |                        |         |              |              |                  |                      |
| 99% Dry Bulb | 9    | 5.8             | 3.0                  |                        | 133     | 84.1         | 77.4         | 75               | 41.1                 |

|               | (°F) | MCHR<br>(gr/lb) | MCWB<br>(°F) | Enthalpy<br>(btu/lb) |
|---------------|------|-----------------|--------------|----------------------|
|               |      |                 |              |                      |
| 1.0% Dry Bulb | 92   | 108.6           | 75.6         | 39.2                 |

EVANSVILLE IN

WMO No. 724320

**Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)****Period of Record = 1973 to 1996**

| Temperature<br>Range<br>(°F) | January             |                |                |              |                          | February            |                |                |              |                          | March               |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
|                              | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 95 / 99                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 90 / 94                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 85 / 89                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 80 / 84                      |                     |                |                |              |                          |                     |                |                |              |                          |                     | 3              | 0              | 3            | 63.1                     |
| 75 / 79                      |                     |                |                |              |                          |                     | 0              |                | 0            | 63.5                     |                     | 8              | 2              | 9            | 61.5                     |
| 70 / 74                      |                     |                |                |              |                          |                     | 1              | 0              | 2            | 59.3                     | 1                   | 13             | 7              | 21           | 59.9                     |
| 65 / 69                      | 0                   | 2              | 1              | 3            | 59.4                     | 0                   | 5              | 2              | 7            | 56.4                     | 6                   | 19             | 14             | 38           | 57.0                     |
| 60 / 64                      | 2                   | 4              | 2              | 8            | 56.0                     | 2                   | 11             | 6              | 20           | 53.8                     | 13                  | 27             | 21             | 60           | 54.4                     |
| 55 / 59                      | 4                   | 7              | 6              | 16           | 52.5                     | 7                   | 15             | 11             | 33           | 50.9                     | 19                  | 29             | 27             | 75           | 50.5                     |
| 50 / 54                      | 6                   | 13             | 9              | 27           | 47.5                     | 9                   | 19             | 13             | 40           | 46.6                     | 26                  | 36             | 33             | 95           | 46.4                     |
| 45 / 49                      | 8                   | 22             | 15             | 44           | 42.6                     | 13                  | 26             | 21             | 59           | 42.4                     | 31                  | 35             | 37             | 102          | 42.3                     |
| 40 / 44                      | 19                  | 30             | 23             | 72           | 38.4                     | 22                  | 34             | 32             | 88           | 38.3                     | 35                  | 30             | 35             | 101          | 38.2                     |
| 35 / 39                      | 36                  | 48             | 43             | 127          | 34.0                     | 40                  | 33             | 40             | 113          | 34.0                     | 38                  | 24             | 32             | 95           | 33.7                     |
| 30 / 34                      | 47                  | 39             | 51             | 137          | 29.7                     | 41                  | 24             | 35             | 100          | 29.4                     | 44                  | 16             | 26             | 86           | 29.6                     |
| 25 / 29                      | 43                  | 29             | 39             | 112          | 24.8                     | 33                  | 23             | 24             | 81           | 24.7                     | 21                  | 6              | 10             | 37           | 24.9                     |
| 20 / 24                      | 29                  | 20             | 22             | 71           | 20.1                     | 19                  | 14             | 16             | 49           | 19.9                     | 9                   | 1              | 2              | 13           | 20.5                     |
| 15 / 19                      | 19                  | 15             | 15             | 49           | 15.4                     | 11                  | 9              | 10             | 31           | 15.1                     | 2                   | 1              | 1              | 4            | 15.0                     |
| 10 / 14                      | 14                  | 8              | 11             | 33           | 10.5                     | 12                  | 4              | 7              | 23           | 10.7                     | 1                   | 0              | 0              | 2            | 11.1                     |
| 5 / 9                        | 10                  | 4              | 7              | 21           | 5.9                      | 8                   | 2              | 3              | 14           | 6.0                      | 1                   | 0              | 0              | 1            | 6.4                      |
| 0 / 4                        | 6                   | 3              | 3              | 12           | 0.9                      | 5                   | 1              | 2              | 8            | 1.3                      | 0                   | 0              | 0              | 0            | 2.2                      |
| -5 / -1                      | 2                   | 1              | 2              | 4            | -3.5                     | 2                   | 0              | 1              | 3            | -2.7                     | 0                   |                | 0              | 0            | -2.8                     |
| -10 / -6                     | 2                   | 1              | 1              | 3            | -7.2                     | 1                   |                | 0              | 1            | -6.3                     | 0                   |                |                | 0            | -5.8                     |
| -15 / -11                    | 1                   | 0              | 0              | 2            | -12.6                    |                     |                |                |              |                          |                     |                |                |              |                          |
| -20 / -16                    | 1                   |                | 0              | 1            | -16.1                    |                     |                |                |              |                          |                     |                |                |              |                          |
| -25 / -21                    | 0                   |                |                | 0            | -20.0                    |                     |                |                |              |                          |                     |                |                |              |                          |

**Caution:** This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

EVANSVILLE IN

WMO No. 724320

Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)

Period of Record = 1973 to 1996

| Temperature<br>Range<br>(°F) | April               |                |                |              |                          | May                 |                |                |              |                          | June                |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
|                              | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     |                |                |              |                          |                     |                |                |              |                          |                     | 1              | 0              | 1            | 77.6                     |
| 95 / 99                      |                     |                |                |              |                          |                     |                |                |              |                          |                     | 5              | 1              | 6            | 75.8                     |
| 90 / 94                      |                     | 0              |                | 0            | 70.5                     |                     | 4              | 0              | 4            | 72.0                     |                     | 31             | 7              | 38           | 74.3                     |
| 85 / 89                      |                     | 4              | 0              | 4            | 67.0                     |                     | 21             | 5              | 26           | 70.5                     | 1                   | 56             | 23             | 81           | 72.3                     |
| 80 / 84                      |                     | 15             | 4              | 19           | 65.0                     | 1                   | 38             | 14             | 54           | 68.4                     | 11                  | 63             | 41             | 115          | 70.3                     |
| 75 / 79                      | 0                   | 20             | 10             | 30           | 63.3                     | 6                   | 46             | 28             | 80           | 65.8                     | 37                  | 43             | 53             | 133          | 68.9                     |
| 70 / 74                      | 4                   | 32             | 21             | 57           | 60.8                     | 25                  | 48             | 46             | 119          | 63.7                     | 70                  | 26             | 58             | 154          | 66.6                     |
| 65 / 69                      | 21                  | 35             | 31             | 86           | 58.4                     | 49                  | 41             | 50             | 140          | 61.1                     | 56                  | 10             | 34             | 99           | 62.9                     |
| 60 / 64                      | 30                  | 37             | 33             | 100          | 54.9                     | 55                  | 27             | 43             | 125          | 57.2                     | 38                  | 2              | 17             | 58           | 58.3                     |
| 55 / 59                      | 31                  | 33             | 39             | 102          | 50.7                     | 38                  | 13             | 31             | 83           | 52.8                     | 20                  | 1              | 6              | 26           | 54.0                     |
| 50 / 54                      | 41                  | 30             | 38             | 108          | 46.8                     | 39                  | 6              | 20             | 65           | 48.6                     | 7                   | 0              | 1              | 8            | 49.3                     |
| 45 / 49                      | 39                  | 20             | 31             | 90           | 42.9                     | 23                  | 2              | 9              | 33           | 44.5                     | 1                   |                | 0              | 1            | 45.5                     |
| 40 / 44                      | 33                  | 11             | 20             | 64           | 38.6                     | 11                  | 0              | 2              | 13           | 40.2                     |                     |                |                |              |                          |
| 35 / 39                      | 24                  | 3              | 10             | 38           | 34.5                     | 2                   |                | 0              | 2            | 35.6                     |                     |                |                |              |                          |
| 30 / 34                      | 13                  | 0              | 3              | 17           | 30.3                     | 0                   |                |                | 0            | 31.5                     |                     |                |                |              |                          |
| 25 / 29                      | 3                   |                | 0              | 4            | 26.2                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 20 / 24                      | 0                   |                |                | 0            | 22.9                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 15 / 19                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 10 / 14                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 5 / 9                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 0 / 4                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -5 / -1                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -10 / -6                     |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -15 / -11                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -20 / -16                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -25 / -21                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |

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EVANSVILLE IN

WMO No. 724320

**Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)****Period of Record = 1973 to 1996**

| Temperature<br>Range<br>(°F) | July                |                |                |              |                          | August              |                |                |              |                          | September           |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
|                              | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     | 1              |                | 1            | 77.6                     |                     | 1              |                | 1            | 77.4                     |                     |                |                |              |                          |
| 95 / 99                      |                     | 11             | 2              | 13           | 77.7                     |                     | 9              | 1              | 10           | 77.8                     |                     | 1              | 0              | 2            | 75.5                     |
| 90 / 94                      | 0                   | 54             | 15             | 68           | 76.2                     | 0                   | 36             | 7              | 43           | 76.3                     |                     | 12             | 1              | 13           | 74.3                     |
| 85 / 89                      | 3                   | 76             | 35             | 114          | 74.4                     | 2                   | 65             | 23             | 89           | 74.2                     | 0                   | 32             | 6              | 38           | 72.6                     |
| 80 / 84                      | 24                  | 63             | 60             | 147          | 72.7                     | 11                  | 66             | 43             | 120          | 72.1                     | 2                   | 51             | 15             | 67           | 69.8                     |
| 75 / 79                      | 68                  | 30             | 64             | 162          | 71.3                     | 43                  | 46             | 63             | 152          | 70.5                     | 12                  | 46             | 35             | 93           | 68.1                     |
| 70 / 74                      | 83                  | 9              | 50             | 143          | 68.7                     | 83                  | 19             | 64             | 167          | 68.4                     | 42                  | 44             | 50             | 137          | 66.2                     |
| 65 / 69                      | 44                  | 2              | 19             | 65           | 63.9                     | 54                  | 4              | 32             | 91           | 64.0                     | 48                  | 27             | 42             | 117          | 62.4                     |
| 60 / 64                      | 21                  | 0              | 5              | 26           | 59.8                     | 37                  | 1              | 13             | 51           | 59.9                     | 45                  | 17             | 39             | 101          | 58.0                     |
| 55 / 59                      | 4                   |                | 0              | 5            | 55.1                     | 14                  |                | 3              | 17           | 55.7                     | 35                  | 7              | 29             | 71           | 53.5                     |
| 50 / 54                      | 1                   |                |                | 1            | 52.2                     | 2                   |                | 0              | 3            | 51.4                     | 33                  | 2              | 16             | 50           | 49.7                     |
| 45 / 49                      |                     |                |                |              |                          | 0                   |                | 0              | 0            | 45.4                     | 17                  |                | 6              | 24           | 45.1                     |
| 40 / 44                      |                     |                |                |              |                          | 0                   |                |                | 0            | 43.2                     | 5                   |                | 1              | 6            | 40.7                     |
| 35 / 39                      |                     |                |                |              |                          |                     |                |                |              |                          | 2                   |                | 0              | 2            | 36.5                     |
| 30 / 34                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 25 / 29                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 20 / 24                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 15 / 19                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 10 / 14                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 5 / 9                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 0 / 4                        |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -5 / -1                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -10 / -6                     |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -15 / -11                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -20 / -16                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| -25 / -21                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |

**Caution:** This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

## EVANSVILLE IN

WMO No. 724320

## Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)

Period of Record = 1973 to 1996

| Temperature<br>Range<br>(°F) | October             |                |                |              |                          | November            |                |                |              |                          | December            |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|---------------------|----------------|----------------|--------------|--------------------------|
|                              | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 95 / 99                      |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |
| 90 / 94                      |                     | 0              |                | 0            | 70.0                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 85 / 89                      |                     | 2              | 0              | 2            | 67.7                     |                     |                |                |              |                          |                     |                |                |              |                          |
| 80 / 84                      |                     | 13             | 1              | 15           | 66.5                     |                     | 1              |                | 1            | 63.5                     |                     |                |                |              |                          |
| 75 / 79                      | 0                   | 28             | 6              | 34           | 63.8                     |                     | 3              | 0              | 3            | 62.8                     |                     | 0              |                | 0            | 66.9                     |
| 70 / 74                      | 5                   | 39             | 17             | 61           | 61.7                     | 1                   | 13             | 3              | 16           | 61.4                     | 0                   | 0              | 0              | 1            | 64.7                     |
| 65 / 69                      | 15                  | 43             | 33             | 92           | 59.2                     | 6                   | 20             | 14             | 39           | 59.8                     | 1                   | 4              | 2              | 7            | 60.5                     |
| 60 / 64                      | 31                  | 43             | 39             | 112          | 55.7                     | 16                  | 25             | 18             | 60           | 56.4                     | 4                   | 9              | 6              | 19           | 56.6                     |
| 55 / 59                      | 36                  | 36             | 40             | 112          | 51.5                     | 20                  | 30             | 23             | 74           | 51.4                     | 9                   | 13             | 12             | 34           | 52.4                     |
| 50 / 54                      | 43                  | 25             | 42             | 111          | 47.5                     | 25                  | 36             | 32             | 93           | 46.8                     | 11                  | 19             | 12             | 42           | 47.4                     |
| 45 / 49                      | 43                  | 13             | 35             | 90           | 43.7                     | 27                  | 37             | 36             | 99           | 42.5                     | 16                  | 33             | 23             | 72           | 43.0                     |
| 40 / 44                      | 35                  | 3              | 22             | 60           | 39.5                     | 37                  | 35             | 39             | 112          | 38.2                     | 28                  | 41             | 34             | 103          | 38.4                     |
| 35 / 39                      | 26                  | 1              | 11             | 38           | 35.3                     | 39                  | 25             | 35             | 99           | 33.9                     | 42                  | 49             | 48             | 138          | 34.1                     |
| 30 / 34                      | 12                  | 0              | 3              | 15           | 31.1                     | 37                  | 11             | 28             | 76           | 29.7                     | 47                  | 35             | 48             | 129          | 29.7                     |
| 25 / 29                      | 2                   |                | 0              | 3            | 25.7                     | 22                  | 2              | 11             | 35           | 25.5                     | 36                  | 18             | 30             | 84           | 25.0                     |
| 20 / 24                      | 0                   |                |                | 0            | 21.7                     | 7                   | 1              | 2              | 11           | 20.9                     | 25                  | 11             | 15             | 51           | 20.5                     |
| 15 / 19                      |                     |                |                |              |                          | 2                   | 0              | 0              | 2            | 16.2                     | 12                  | 6              | 9              | 27           | 15.4                     |
| 10 / 14                      |                     |                |                |              |                          | 1                   |                | 0              | 1            | 12.1                     | 8                   | 4              | 5              | 17           | 11.0                     |
| 5 / 9                        |                     |                |                |              |                          |                     |                |                |              |                          | 4                   | 2              | 4              | 11           | 6.1                      |
| 0 / 4                        |                     |                |                |              |                          |                     |                |                |              |                          | 3                   | 1              | 1              | 5            | 1.7                      |
| -5 / -1                      |                     |                |                |              |                          |                     |                |                |              |                          | 1                   | 1              | 1              | 3            | -3.1                     |
| -10 / -6                     |                     |                |                |              |                          |                     |                |                |              |                          | 1                   | 0              | 1              | 2            | -7.4                     |
| -15 / -11                    |                     |                |                |              |                          |                     |                |                |              |                          | 1                   | 0              | 0              | 1            | -11.9                    |
| -20 / -16                    |                     |                |                |              |                          |                     |                |                |              |                          | 0                   |                |                | 0            | -15.0                    |
| -25 / -21                    |                     |                |                |              |                          |                     |                |                |              |                          |                     |                |                |              |                          |

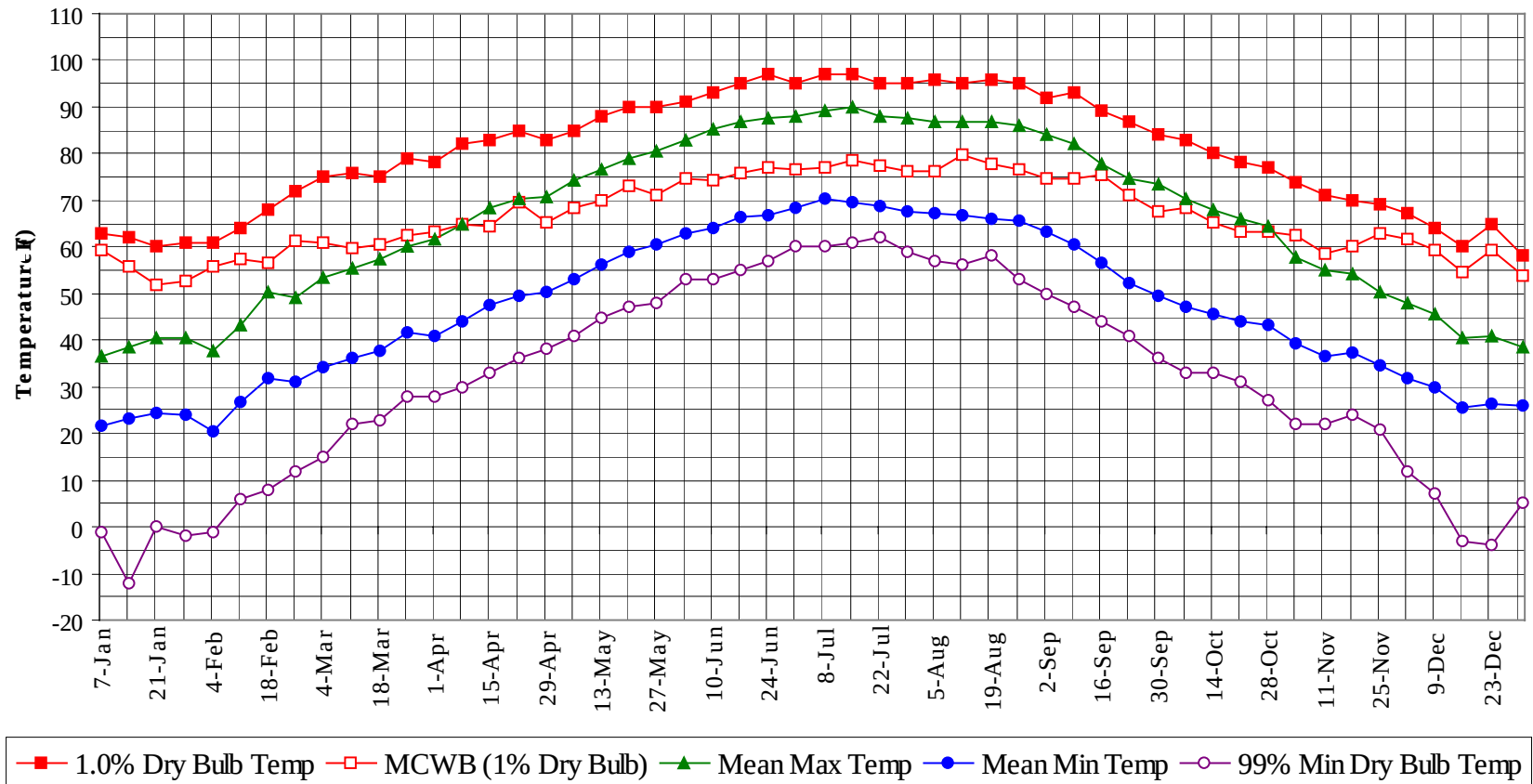
**Caution:** This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

**EVANSVILLE IN WMO No. 724320**  
**Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)**  
**Period of Record = 1973 to 1996**

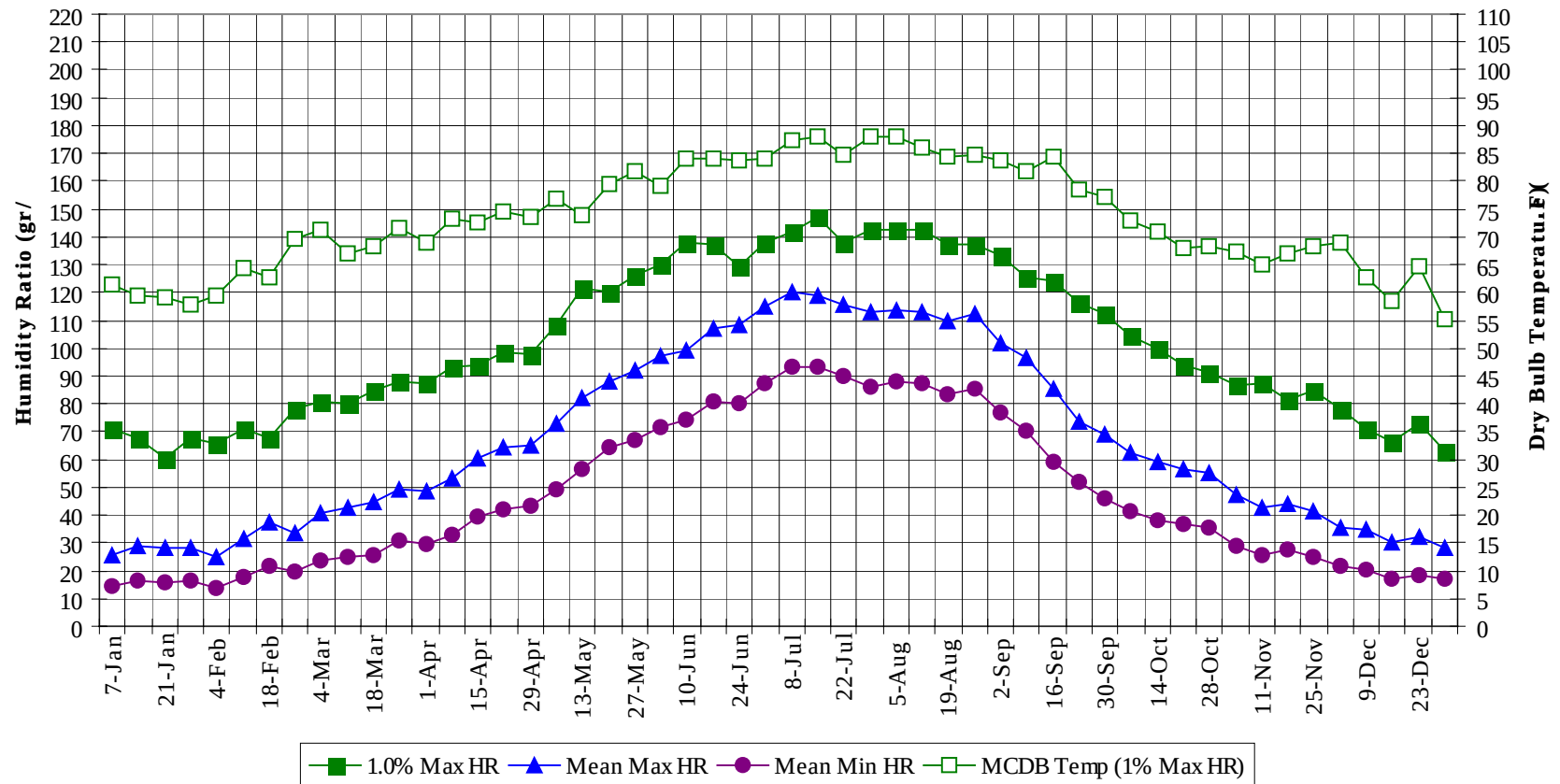
| Annual Totals                |                     |                |                |              |                          |
|------------------------------|---------------------|----------------|----------------|--------------|--------------------------|
| Temperature<br>Range<br>(°F) | Hour<br>Group (LST) |                |                | Total<br>Obs | M<br>C<br>W<br>B<br>(°F) |
|                              | 01<br>To<br>08      | 09<br>To<br>16 | 17<br>To<br>00 |              |                          |
| 100 / 104                    |                     | 3              | 0              | 3            | 77.5                     |
| 95 / 99                      |                     | 27             | 4              | 31           | 77.3                     |
| 90 / 94                      | 0                   | 136            | 30             | 167          | 75.6                     |
| 85 / 89                      | 6                   | 256            | 92             | 354          | 73.3                     |
| 80 / 84                      | 48                  | 311            | 178            | 537          | 70.8                     |
| 75 / 79                      | 167                 | 269            | 259            | 695          | 68.7                     |
| 70 / 74                      | 313                 | 244            | 316            | 873          | 65.9                     |
| 65 / 69                      | 299                 | 211            | 270            | 779          | 61.2                     |
| 60 / 64                      | 292                 | 202            | 243            | 737          | 56.7                     |
| 55 / 59                      | 237                 | 184            | 226            | 647          | 51.9                     |
| 50 / 54                      | 240                 | 185            | 216            | 641          | 47.4                     |
| 45 / 49                      | 217                 | 186            | 212            | 615          | 43.0                     |
| 40 / 44                      | 227                 | 184            | 209            | 620          | 38.5                     |
| 35 / 39                      | 249                 | 186            | 221            | 656          | 34.1                     |
| 30 / 34                      | 244                 | 126            | 196            | 566          | 29.7                     |
| 25 / 29                      | 163                 | 80             | 117            | 359          | 24.9                     |
| 20 / 24                      | 90                  | 48             | 59             | 197          | 20.2                     |
| 15 / 19                      | 47                  | 32             | 35             | 114          | 15.3                     |
| 10 / 14                      | 35                  | 17             | 24             | 77           | 10.7                     |
| 5 / 9                        | 24                  | 9              | 15             | 48           | 6.0                      |
| 0 / 4                        | 14                  | 4              | 6              | 25           | 1.2                      |
| -5 / -1                      | 5                   | 2              | 3              | 10           | -3.1                     |
| -10 / -6                     | 3                   | 1              | 2              | 6            | -7.1                     |
| -15 / -11                    | 2                   | 0              | 1              | 2            | -12.4                    |
| -20 / -16                    | 1                   |                | 0              | 1            | -16.0                    |
| -25 / -21                    | 0                   |                |                | 0            | -20.0                    |

**Caution:** This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

## Annual Summary of Temperatures



## Long Term Humidity and Dry Bulb Temperature Summary



# EVANSVILLE IN

WMO No. 724320

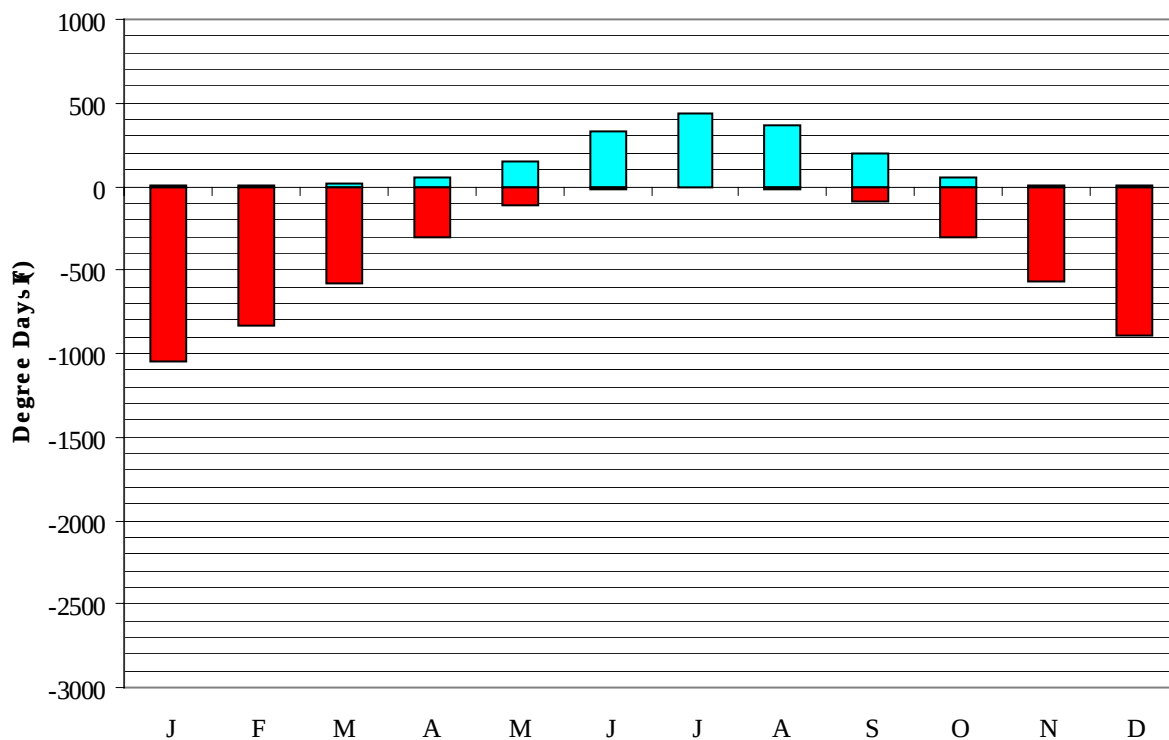
## Long Term Dry Bulb Temperature and Humidity Summary

| Week<br>Ending | 1.0%<br>Temp (°F) | MCWB @<br>1% Temp (°F) | Mean Max<br>Temp (°F) | Mean Min<br>Temp (°F) | 99%<br>Temp (°F) | 1.0%<br>HR (gr/lb) | MCDB @<br>1% HR (°F) | Mean Max<br>HR (gr/lb) | Mean Min<br>HR (gr/lb) |
|----------------|-------------------|------------------------|-----------------------|-----------------------|------------------|--------------------|----------------------|------------------------|------------------------|
| 7-Jan          | 63.0              | 59.4                   | 36.6                  | 21.7                  | -1.0             | 70.7               | 61.6                 | 25.8                   | 14.1                   |
| 14-Jan         | 62.0              | 55.8                   | 38.7                  | 23.1                  | -12.0            | 67.9               | 59.6                 | 28.6                   | 16.2                   |
| 21-Jan         | 60.0              | 52.0                   | 40.5                  | 24.2                  | 0.0              | 60.2               | 59.0                 | 28.3                   | 15.9                   |
| 28-Jan         | 61.0              | 52.9                   | 40.5                  | 24.0                  | -2.0             | 67.9               | 57.6                 | 28.5                   | 16.4                   |
| 4-Feb          | 61.0              | 55.9                   | 37.8                  | 20.6                  | -1.0             | 65.8               | 59.6                 | 24.7                   | 13.6                   |
| 11-Feb         | 64.0              | 57.3                   | 43.4                  | 26.8                  | 6.0              | 70.7               | 64.5                 | 31.7                   | 18.1                   |
| 18-Feb         | 68.0              | 56.5                   | 50.4                  | 31.9                  | 8.0              | 67.9               | 62.6                 | 37.2                   | 21.6                   |
| 25-Feb         | 72.0              | 61.4                   | 49.1                  | 31.1                  | 12.0             | 78.4               | 69.6                 | 33.6                   | 20.0                   |
| 4-Mar          | 75.0              | 61.0                   | 53.6                  | 34.4                  | 15.0             | 80.5               | 71.2                 | 40.8                   | 23.8                   |
| 11-Mar         | 76.0              | 59.5                   | 55.5                  | 36.3                  | 22.0             | 79.8               | 67.0                 | 42.4                   | 24.8                   |
| 18-Mar         | 75.0              | 60.7                   | 57.5                  | 37.7                  | 23.0             | 84.7               | 68.4                 | 44.4                   | 25.6                   |
| 25-Mar         | 79.0              | 62.3                   | 60.0                  | 41.7                  | 28.0             | 88.2               | 71.7                 | 49.4                   | 30.7                   |
| 1-Apr          | 78.0              | 63.4                   | 61.6                  | 40.8                  | 28.0             | 87.5               | 68.9                 | 48.7                   | 29.6                   |
| 8-Apr          | 82.0              | 64.8                   | 64.9                  | 44.1                  | 30.0             | 93.1               | 73.1                 | 52.9                   | 32.7                   |
| 15-Apr         | 83.0              | 64.4                   | 68.4                  | 47.6                  | 33.0             | 93.8               | 72.7                 | 60.4                   | 39.4                   |
| 22-Apr         | 85.0              | 69.4                   | 70.3                  | 49.5                  | 36.0             | 98.7               | 74.4                 | 64.5                   | 42.2                   |
| 29-Apr         | 83.0              | 65.2                   | 70.6                  | 50.2                  | 38.0             | 98.0               | 73.5                 | 65.0                   | 43.3                   |
| 6-May          | 85.0              | 68.3                   | 74.3                  | 53.0                  | 41.0             | 108.5              | 76.7                 | 72.8                   | 49.1                   |
| 13-May         | 88.0              | 69.9                   | 76.7                  | 56.0                  | 45.0             | 121.8              | 74.0                 | 81.8                   | 56.6                   |
| 20-May         | 90.0              | 72.9                   | 78.9                  | 59.1                  | 47.0             | 120.4              | 79.6                 | 88.1                   | 64.5                   |
| 27-May         | 90.0              | 71.3                   | 80.5                  | 60.5                  | 48.0             | 126.0              | 81.8                 | 91.7                   | 67.3                   |
| 3-Jun          | 91.0              | 74.6                   | 82.9                  | 62.7                  | 53.0             | 130.2              | 79.1                 | 97.3                   | 71.5                   |
| 10-Jun         | 93.0              | 74.2                   | 85.1                  | 64.0                  | 53.0             | 137.9              | 84.0                 | 99.0                   | 74.5                   |
| 17-Jun         | 95.0              | 75.8                   | 87.0                  | 66.5                  | 55.0             | 137.2              | 84.0                 | 106.9                  | 80.8                   |
| 24-Jun         | 97.0              | 76.9                   | 87.5                  | 66.8                  | 57.0             | 129.5              | 83.6                 | 108.3                  | 80.3                   |
| 1-Jul          | 95.0              | 76.6                   | 88.0                  | 68.5                  | 60.0             | 137.9              | 84.0                 | 115.2                  | 87.2                   |
| 8-Jul          | 97.0              | 77.0                   | 89.3                  | 70.2                  | 60.0             | 142.1              | 87.5                 | 120.0                  | 93.4                   |
| 15-Jul         | 97.0              | 78.6                   | 89.9                  | 69.7                  | 61.0             | 147.0              | 88.2                 | 118.9                  | 93.2                   |
| 22-Jul         | 95.0              | 77.4                   | 88.1                  | 68.8                  | 62.0             | 137.9              | 84.6                 | 115.9                  | 90.0                   |
| 29-Jul         | 95.0              | 76.2                   | 87.5                  | 67.5                  | 59.0             | 142.8              | 87.9                 | 112.7                  | 86.3                   |
| 5-Aug          | 96.0              | 76.4                   | 86.9                  | 67.3                  | 57.0             | 142.8              | 87.9                 | 113.6                  | 87.8                   |
| 12-Aug         | 95.0              | 79.8                   | 87.0                  | 66.7                  | 56.0             | 142.8              | 86.1                 | 113.0                  | 87.5                   |
| 19-Aug         | 96.0              | 77.7                   | 86.9                  | 66.0                  | 58.0             | 137.2              | 84.3                 | 109.7                  | 83.7                   |
| 26-Aug         | 95.0              | 76.5                   | 85.9                  | 65.6                  | 53.0             | 137.2              | 84.7                 | 112.2                  | 85.1                   |
| 2-Sep          | 92.0              | 74.7                   | 84.2                  | 63.2                  | 50.0             | 133.0              | 83.7                 | 102.0                  | 76.6                   |
| 9-Sep          | 93.0              | 74.7                   | 82.1                  | 60.7                  | 47.0             | 125.3              | 81.9                 | 96.5                   | 70.3                   |
| 16-Sep         | 89.0              | 75.3                   | 77.9                  | 56.5                  | 44.0             | 123.9              | 84.3                 | 85.6                   | 59.4                   |
| 23-Sep         | 87.0              | 71.2                   | 74.6                  | 52.3                  | 41.0             | 116.2              | 78.5                 | 73.7                   | 51.7                   |
| 30-Sep         | 84.0              | 67.5                   | 73.6                  | 49.6                  | 36.0             | 112.0              | 77.3                 | 68.8                   | 45.9                   |
| 7-Oct          | 83.0              | 68.3                   | 70.5                  | 47.3                  | 33.0             | 104.3              | 72.8                 | 62.1                   | 41.6                   |
| 14-Oct         | 80.0              | 65.1                   | 68.0                  | 45.4                  | 33.0             | 100.1              | 70.8                 | 58.9                   | 38.3                   |
| 21-Oct         | 78.0              | 63.1                   | 66.1                  | 43.8                  | 31.0             | 93.8               | 68.0                 | 56.3                   | 36.5                   |
| 28-Oct         | 77.0              | 63.2                   | 64.4                  | 43.2                  | 27.0             | 91.0               | 68.4                 | 55.4                   | 35.4                   |
| 4-Nov          | 74.0              | 62.5                   | 57.9                  | 39.2                  | 22.0             | 86.8               | 67.5                 | 47.3                   | 29.1                   |
| 11-Nov         | 71.0              | 58.7                   | 54.9                  | 36.5                  | 22.0             | 87.5               | 65.2                 | 42.9                   | 25.8                   |
| 18-Nov         | 70.0              | 60.3                   | 54.1                  | 37.2                  | 24.0             | 81.2               | 66.9                 | 44.0                   | 27.6                   |
| 25-Nov         | 69.0              | 63.1                   | 50.1                  | 34.5                  | 21.0             | 84.7               | 68.2                 | 41.5                   | 24.6                   |
| 2-Dec          | 67.0              | 61.7                   | 47.8                  | 31.7                  | 12.0             | 78.4               | 69.0                 | 35.7                   | 21.4                   |
| 9-Dec          | 64.0              | 59.4                   | 45.6                  | 29.8                  | 7.0              | 70.7               | 62.9                 | 34.9                   | 20.2                   |
| 16-Dec         | 60.0              | 54.7                   | 40.6                  | 25.4                  | -3.0             | 66.5               | 58.5                 | 30.1                   | 17.1                   |
| 23-Dec         | 65.0              | 59.5                   | 41.1                  | 26.2                  | -4.0             | 72.8               | 64.8                 | 32.1                   | 18.1                   |
| 31-Dec         | 58.0              | 53.9                   | 38.7                  | 25.8                  | 5.0              | 63.0               | 55.3                 | 28.4                   | 17.4                   |

EVANSVILLE IN

WMO No. 724320

**Degree Days, Heating and Cooling**  
(Base 65°F)



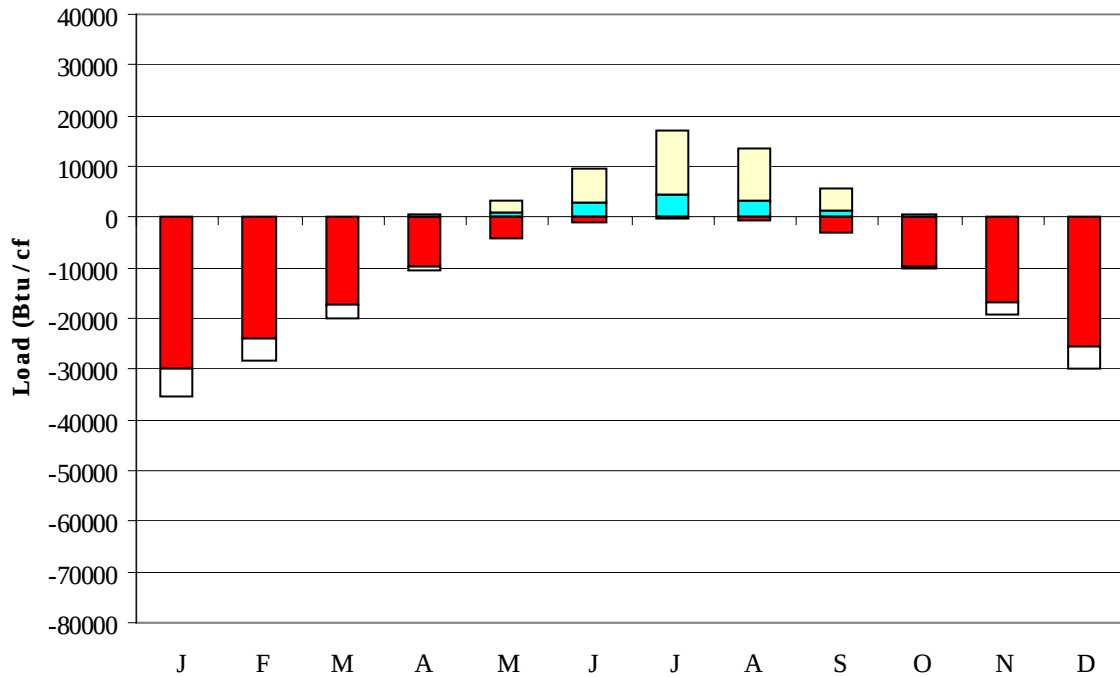
■ Mean Cooling Degree Days ■ Mean Heating Degree Days

|     | Mean Cooling<br>Degree Days (°F) | Mean Heating<br>Degree Days (°F) |
|-----|----------------------------------|----------------------------------|
| JAN | 0                                | 1052                             |
| FEB | 1                                | 835                              |
| MAR | 15                               | 585                              |
| APR | 52                               | 308                              |
| MAY | 150                              | 113                              |
| JUN | 324                              | 19                               |
| JUL | 432                              | 4                                |
| AUG | 362                              | 13                               |
| SEP | 192                              | 87                               |
| OCT | 53                               | 304                              |
| NOV | 9                                | 568                              |
| DEC | 1                                | 897                              |
| ANN | 1590                             | 4785                             |

EVANSVILLE IN

WMO No. 724320

**Average Ventilation and Infiltration Loads**  
**(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)**



|                                                                            |                                                                                |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| <span style="color: cyan;">■</span> Average Sensible Cooling Load          | <span style="color: red;">■</span> Average Sensible Heating Load               |
| <span style="color: yellow;">■</span> Average Latent Cooling (Drying) Load | <span style="color: white;">■</span> Average Latent Heating (Humidifying) Load |

|     | Average Sensible Cooling Load (Btu/cfm) | Average Sensible Heating Load (Btu/cfm) | Average Latent Cooling Load (Btu/cfm) | Average Latent Heating Load (Btu/cfm) |
|-----|-----------------------------------------|-----------------------------------------|---------------------------------------|---------------------------------------|
| JAN | 0                                       | -29687                                  | 0                                     | -5885                                 |
| FEB | 0                                       | -23822                                  | 1                                     | -4517                                 |
| MAR | 33                                      | -17420                                  | 41                                    | -2409                                 |
| APR | 237                                     | -9805                                   | 255                                   | -743                                  |
| MAY | 917                                     | -4164                                   | 2283                                  | -68                                   |
| JUN | 2939                                    | -894                                    | 6742                                  | -2                                    |
| JUL | 4447                                    | -272                                    | 12536                                 | 0                                     |
| AUG | 3381                                    | -648                                    | 10227                                 | 0                                     |
| SEP | 1388                                    | -3206                                   | 4384                                  | -14                                   |
| OCT | 194                                     | -9767                                   | 513                                   | -527                                  |
| NOV | 7                                       | -16924                                  | 90                                    | -2144                                 |
| DEC | 0                                       | -25649                                  | 6                                     | -4399                                 |
| ANN | 13543                                   | -142258                                 | 37078                                 | -20708                                |

## Average Annual Solar Radiation – Nearest Available Site

(Source: National Renewable Energy Laboratory, Golden CO, 1995)

City: EVANSVILLE  
 State: IN  
 WBAN No: 93817  
 Lat(N): 38.05  
 Long(W): 87.53  
 Elev(ft): 387

Stn Type: Secondary  
 SHADING GEOMETRY IN DIMENSIONLESS UNITS

Window: 1  
 Overhang: 0.478  
 Vert Gap: 0.31

| AVERAGE INCIDENT SOLAR RADIATION (Btu/sq.ft./day), Percentage Uncertainty = 9 |         | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  | Year |
|-------------------------------------------------------------------------------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| HORIZ                                                                         | Global  | 660  | 910  | 1220 | 1580 | 1870 | 2060 | 2000 | 1810 | 1470 | 1120 | 720  | 570  | 1330 |
|                                                                               | Std Dev | 51   | 67   | 102  | 141  | 143  | 129  | 107  | 115  | 96   | 84   | 66   | 52   | 42   |
|                                                                               | Minimum | 560  | 790  | 1060 | 1300 | 1530 | 1840 | 1700 | 1600 | 1290 | 940  | 590  | 480  | 1270 |
|                                                                               | Maximum | 780  | 1050 | 1370 | 1860 | 2220 | 2430 | 2180 | 1990 | 1640 | 1330 | 850  | 690  | 1460 |
|                                                                               | Diffuse | 350  | 450  | 590  | 710  | 800  | 830  | 820  | 740  | 610  | 440  | 360  | 310  | 590  |
| Clear Day                                                                     | Global  | 970  | 1320 | 1790 | 2230 | 2520 | 2610 | 2530 | 2280 | 1880 | 1410 | 1020 | 860  | 1790 |
| NORTH                                                                         | Global  | 210  | 280  | 360  | 440  | 550  | 630  | 600  | 490  | 390  | 300  | 220  | 190  | 390  |
|                                                                               | Diffuse | 210  | 280  | 360  | 430  | 500  | 530  | 520  | 460  | 390  | 300  | 220  | 190  | 370  |
| Clear Day                                                                     | Global  | 200  | 250  | 330  | 430  | 580  | 680  | 630  | 480  | 360  | 280  | 210  | 180  | 390  |
| EAST                                                                          | Global  | 440  | 580  | 740  | 920  | 1060 | 1130 | 1110 | 1040 | 880  | 710  | 460  | 380  | 790  |
|                                                                               | Diffuse | 260  | 330  | 430  | 530  | 600  | 630  | 630  | 580  | 480  | 370  | 270  | 220  | 440  |
| Clear Day                                                                     | Global  | 720  | 910  | 1150 | 1340 | 1430 | 1440 | 1410 | 1320 | 1150 | 930  | 720  | 630  | 1100 |
| SOUTH                                                                         | Global  | 970  | 1050 | 1030 | 940  | 820  | 760  | 800  | 950  | 1100 | 1220 | 980  | 870  | 960  |
|                                                                               | Diffuse | 360  | 420  | 490  | 530  | 560  | 570  | 570  | 570  | 530  | 450  | 360  | 320  | 480  |
| Clear Day                                                                     | Global  | 1930 | 1950 | 1760 | 1350 | 1020 | 870  | 930  | 1190 | 1550 | 1810 | 1850 | 1830 | 1500 |
| WEST                                                                          | Global  | 440  | 570  | 740  | 900  | 1030 | 1140 | 1110 | 1040 | 880  | 700  | 470  | 370  | 780  |
|                                                                               | Diffuse | 260  | 340  | 440  | 530  | 610  | 640  | 640  | 590  | 490  | 370  | 270  | 220  | 450  |
| Clear Day                                                                     | Global  | 720  | 910  | 1150 | 1340 | 1430 | 1440 | 1410 | 1320 | 1150 | 930  | 720  | 630  | 1100 |

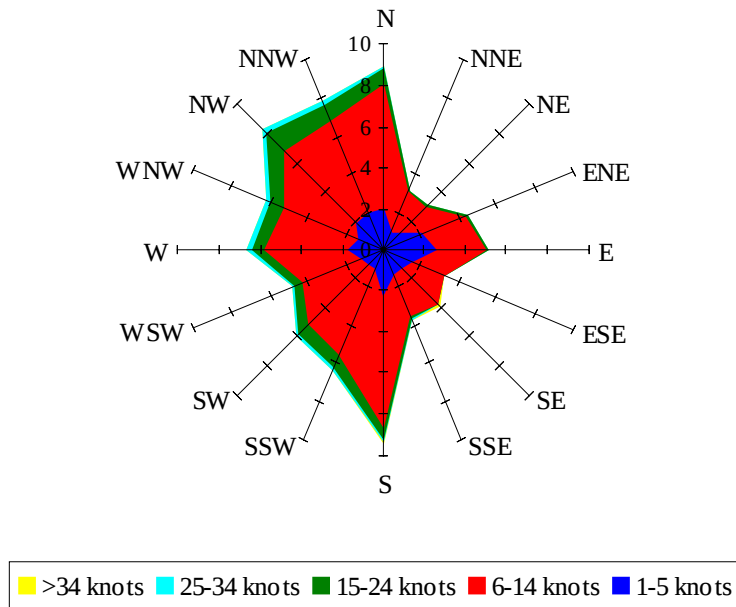
## Average Annual Solar Heat and Illumination – Nearest Available Site

(Source: National Renewable Energy Laboratory, Golden CO, 1995)

| AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9 |          | Jan | Feb | Mar | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct | Nov | Dec | Year |
|-----------------------------------------------------------------------------------------------------|----------|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|------|
| HORIZ                                                                                               | Unshaded | 440 | 620 | 860 | 1130 | 1360 | 1500 | 1460 | 1310 | 1050 | 780 | 480 | 370 | 950  |
| NORTH                                                                                               | Unshaded | 150 | 190 | 250 | 300  | 360  | 410  | 390  | 330  | 270  | 210 | 160 | 130 | 260  |
|                                                                                                     | Shaded   | 130 | 170 | 220 | 270  | 330  | 370  | 350  | 300  | 240  | 190 | 140 | 110 | 240  |
| EAST                                                                                                | Unshaded | 300 | 410 | 520 | 660  | 760  | 800  | 790  | 740  | 620  | 500 | 320 | 260 | 560  |
|                                                                                                     | Shaded   | 270 | 360 | 460 | 570  | 660  | 700  | 680  | 650  | 550  | 450 | 290 | 230 | 490  |
| SOUTH                                                                                               | Unshaded | 720 | 760 | 710 | 600  | 500  | 460  | 480  | 590  | 740  | 870 | 730 | 650 | 650  |
|                                                                                                     | Shaded   | 700 | 710 | 570 | 420  | 350  | 360  | 360  | 390  | 550  | 770 | 700 | 630 | 540  |
| WEST                                                                                                | Unshaded | 300 | 400 | 520 | 640  | 730  | 810  | 790  | 740  | 620  | 500 | 330 | 260 | 550  |
|                                                                                                     | Shaded   | 270 | 360 | 460 | 560  | 640  | 700  | 690  | 650  | 550  | 440 | 290 | 230 | 490  |

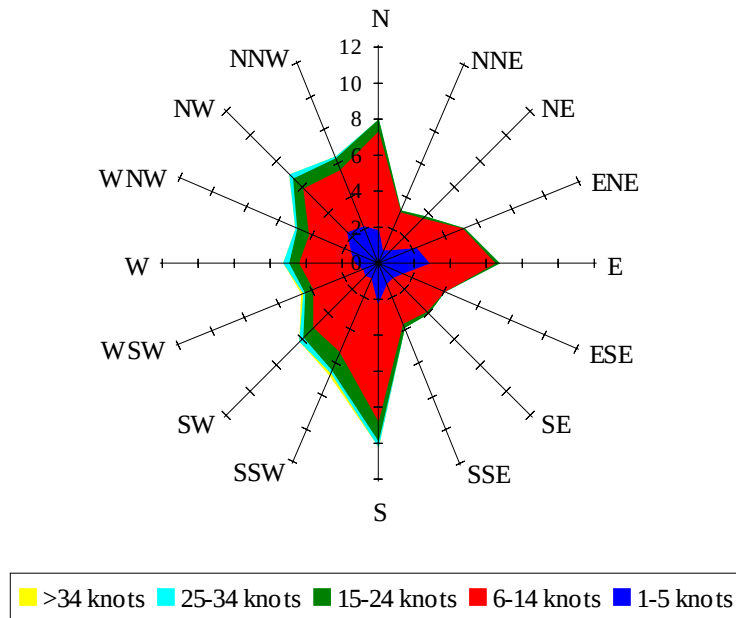
| AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9 |          | March |      |     |     |     | June |      |     |     |     |
|------------------------------------------------------------------------------------------------------------------|----------|-------|------|-----|-----|-----|------|------|-----|-----|-----|
|                                                                                                                  |          | 9am   | 11am | 1pm | 3pm | 5pm | 9am  | 11am | 1pm | 3pm | 5pm |
| HORIZ.                                                                                                           | M.Clear  | 44    | 75   | 82  | 62  | 22  | 52   | 88   | 102 | 94  | 64  |
|                                                                                                                  | M.Cloudy | 25    | 45   | 50  | 37  | 14  | 34   | 62   | 76  | 71  | 47  |
| NORTH                                                                                                            | M.Clear  | 10    | 14   | 15  | 13  | 7   | 18   | 17   | 17  | 17  | 15  |
|                                                                                                                  | M.Cloudy | 10    | 16   | 17  | 14  | 6   | 15   | 18   | 19  | 19  | 15  |
| EAST                                                                                                             | M.Clear  | 75    | 52   | 15  | 13  | 7   | 80   | 70   | 26  | 17  | 15  |
|                                                                                                                  | M.Cloudy | 26    | 28   | 17  | 14  | 6   | 39   | 46   | 24  | 19  | 15  |
| SOUTH                                                                                                            | M.Clear  | 43    | 73   | 80  | 60  | 22  | 13   | 32   | 45  | 38  | 16  |
|                                                                                                                  | M.Cloudy | 18    | 35   | 40  | 29  | 10  | 12   | 27   | 36  | 32  | 16  |
| WEST                                                                                                             | M.Clear  | 10    | 14   | 29  | 69  | 60  | 13   | 17   | 17  | 57  | 78  |
|                                                                                                                  | M.Cloudy | 10    | 16   | 22  | 32  | 19  | 12   | 18   | 19  | 44  | 50  |
| M.Clear                                                                                                          | (% hrs)  | 31    | 30   | 28  | 27  | 30  | 48   | 42   | 33  | 36  | 42  |
|                                                                                                                  |          | Sept  |      |     |     |     | Dec  |      |     |     |     |
|                                                                                                                  |          | 9am   | 11am | 1pm | 3pm | 5pm | 9am  | 11am | 1pm | 3pm | 5pm |
| HORIZ.                                                                                                           | M.Clear  | 33    | 71   | 86  | 76  | 42  | 20   | 45   | 48  | 27  | 0   |
|                                                                                                                  | M.Cloudy | 19    | 45   | 57  | 52  | 28  | 11   | 25   | 27  | 16  | 0   |
| NORTH                                                                                                            | M.Clear  | 10    | 15   | 16  | 16  | 11  | 6    | 10   | 11  | 8   | 0   |
|                                                                                                                  | M.Cloudy | 8     | 15   | 18  | 17  | 11  | 5    | 10   | 11  | 7   | 0   |
| EAST                                                                                                             | M.Clear  | 68    | 67   | 23  | 16  | 11  | 46   | 36   | 11  | 8   | 0   |
|                                                                                                                  | M.Cloudy | 24    | 36   | 21  | 17  | 11  | 12   | 16   | 11  | 7   | 0   |
| SOUTH                                                                                                            | M.Clear  | 24    | 59   | 74  | 64  | 33  | 45   | 83   | 86  | 58  | 1   |
|                                                                                                                  | M.Cloudy | 12    | 32   | 44  | 40  | 19  | 12   | 27   | 29  | 17  | 0   |
| WEST                                                                                                             | M.Clear  | 10    | 15   | 16  | 57  | 71  | 6    | 10   | 26  | 49  | 1   |
|                                                                                                                  | M.Cloudy | 8     | 15   | 18  | 37  | 34  | 5    | 10   | 15  | 15  | 0   |
| M.Clear                                                                                                          | (% hrs)  | 48    | 48   | 42  | 41  | 46  | 29   | 28   | 28  | 28  | 31  |

# **Wind Summary - December, January, and February** **Labels of Percent Frequency on North Axis**



Percent Calm = 10.16

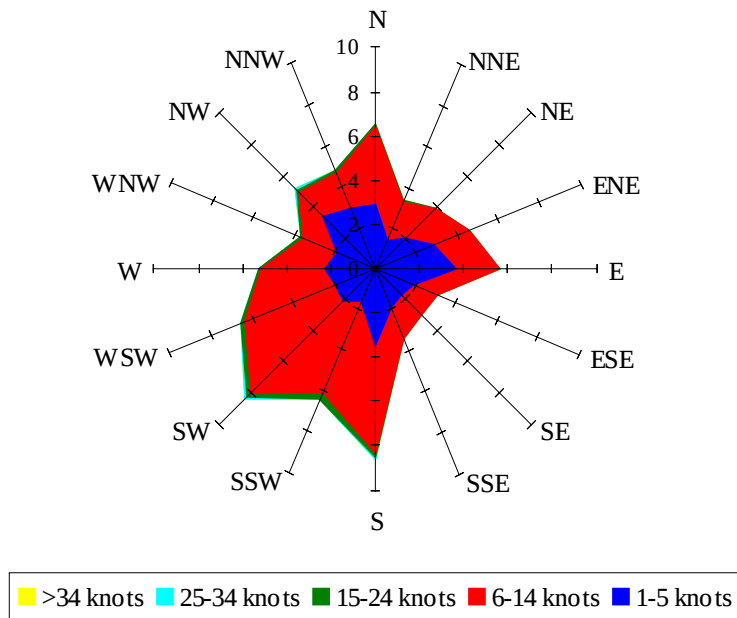
# **Wind Summary - March, April, and May** **Labels of Percent Frequency on North Axis**



Percent Calm = 11.65

### Wind Summary - June, July, and August

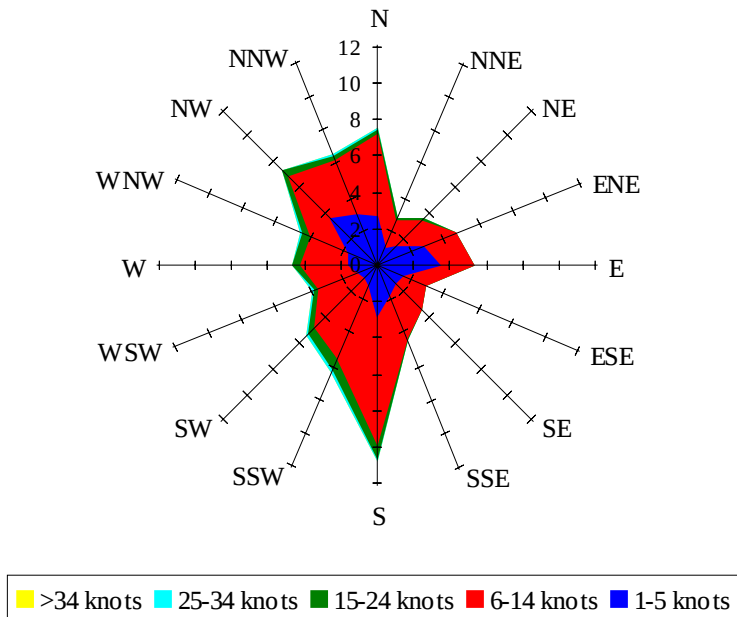
Labels of Percent Frequency on North Axis



Percent Calm = 18.42

### Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 17.13